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Richard Zimmermann

APPLICATION FOR UNITED STATES LETTERS PATENT

S P E C I F I C A T I O N

TO ALL WHOM IT MAY CONCERN:

Be it known that we, Timothy D. Killinger, Gilius A. Gaska, Michael L. Pyle, and John C. Carlson, have invented a new and useful **Storage Device with a Hanging File Folder Storage Space**, of which the following is a specification.

STORAGE DEVICE WITH A HANGING FILE FOLDER STORAGE SPACE

Background of the Invention

1. Field of the Disclosure

[0001] The present invention relates generally to file organization, and more particularly to a hanging file organizer with a storage space that can be pivoted between a retracted, hidden position and an open, accessible position.

2. Description of Related Art

[0002] There are many known file organizer and storage products on the market that can store hanging file folders. These existing products typically include desks, file drawer systems, file cabinets, and the like. Such organizer and storage products often include drawers with horizontally and longitudinally disposed wires, grooves, or the like which are adapted to support and suspend hanging file folders in a lateral orientation.

[0003] In order to view an informational tab on such hanging file folders, the informational tabs are often laterally staggered relative to adjacent files to provide a semi-direct view to the informational tab. Additionally, these types of organizers and storage products are dedicated for file storage. The appearance of such products is typically clearly indicitive that the product or device is for storing files.

Brief Description of the Drawings

[0004] Objects, features, and advantages of the present invention will become apparent upon reading the following description in conjunction with the drawing figures, in which:

[0005] FIG. 1 shows one example in perspective view of a storage device constructed in accordance with the teachings of the present invention.

[0006] FIG. 2 shows a side view of the storage device of FIG. 1 and with its storage area in a closed or retracted condition.

[0007] FIG. 3 shows a perspective view of the storage device depicted in FIG. 1 and with its storage area in an open condition.

[0008] FIG. 4 shows a perspective view of the storage device depicted in FIG. 2 and with its storage area in an open condition.

[0009] FIG. 5 shows an enlarged partial cross section of a portion of the exterior shell of the storage device of FIG. 1 and with the storage in the open condition.

[0010] FIG. 6 shows one example of a file spacing mechanism that can be optionally employed in the storage device shown in FIG. 1.

[0011] FIG. 7 another example of a file spacing mechanism that can be optionally employed in the storage device shown in FIG. 1.

[0012] FIG. 8 illustrates one example of a pivot or hinge structure that can be employed in the storage device shown in FIG. 1.

Detailed Description of the Disclosure

[0013] The file organizer and/or storage product is described herein in accordance with the teachings of the present disclosure. The disclosed product solves or improves upon problems and deficiencies with known, existing file organizer and storage products.

[0014] Referring now to the drawings, FIG. 1 illustrates a perspective view of one example of a storage device 10 constructed in accordance with the teachings of the present invention. The storage device 10 in this example has an exterior shell 12 with an outer surface. As discussed herein, the exterior shell 10 and its outer surface 12 can be configured to provide an outwardly pleasing aesthetic appearance. The shell can also be configured to provide an appearance that masks or hides the file folder storage capability of the device 10.

[0015] Further, the materials utilized to fabricate portions of the exterior shell can vary considerably and yet fall within the spirit and scope of the present invention. For example, the exterior shell 12 can be fabricated from wood, plastic, metal, combinations of these materials. For example, various parts of the shell can include layers of these materials such that the exterior finish appears to be one fabricated from one material, although a different underlying base material is used. In one example, a wood material can be utilized to fabricate portions of the exterior shell, or an exterior wood veneer can be added to an alternative, cheaper base material for an aesthetically pleasing appearance.

[0016] In the disclosed example, the exterior shell 12 includes an openable front panel 16 that defines a part of the exterior shell. The disclosed exterior shell 12 also includes a pair of generally vertically oriented and laterally spaced apart side panels 18 and 20. Each side panel 18 and 20 has a forward facing edge 22. The openable panel 16 is disposed generally between the forward facing edges of the side panels 18 and 20. In this example, the openable

panel 16, when in the closed condition shown in FIGS. 1 and 2, defines a front panel of the device 10. In another example, the openable panel 16 can define only a portion of a front panel of the exterior shell, or can form a portion or all of a different panel of a storage device.

[0017] In this example, the storage device 10 also has an upward facing top panel 24 that defines a top support surface of the storage device. As shown, the top panel 24 is surrounded or partially bounded by a back stop 26 and a pair of opposed and spaced apart side stops 28. The back stop 26 and side stops 28 that extend vertically upward from three side edges of the top panel 24. In this example, the side stops 28 are extensions of the side panels 18 and 20, but need not be so. In another example, the side stops 28 may not be present at all. Similarly, the back stop 26, if present, can be part of a back panel (not shown) or can be a separate or stand alone structure extending upward from a back edge of the top panel 24.

[0018] Although not shown, a wide variation in the shape, size, contour, and the like, of exterior shell 12 can be utilized and yet fall within the spirit and scope of the present invention. The disclosed example employs generally flat, planar, rectangular panels 16, 18, 20, and 24 to form the shell 12. In another example, a hood or cover (not shown) can be disposed over the top panel 24 and spaced upwardly therefrom. The hood can be supported by the back stop 26 and side stops 28 to provide a covered storage area over the top panel 24. However, these panels, the exterior shell 12, and/or its outer surface need not be planar or rectangular. Instead, the exterior shell can take on different shapes and configurations with varying contours without departing from the spirit and scope of the present invention.

[0019] In the disclosed example, the side panels 18 and 20 are rectangular and arranged with a vertically oriented elongate dimension. The top panel is also rectangular and has a larger width than its depth. The openable panel 16 in this example is generally a square rectangular configuration, although it can be any size as desired to accommodate a particular storage device application.

[0020] As a further alternative, the storage device 10 can include a plurality of optional wheels 30, which are shown in phantom in FIG. 4. The wheels can extend downwardly from a bottom surface or panel (not shown) of the shell, or from corners of the bottom edges 32 of the side panels 18 and 20. The wheels 30 are optional, but can be provided in order to permit moving the storage device 10 by easily rolling it along a support surface.

[0021] As shown in FIGS. 3 and 4, the openable panel 16 can be pivoted to an open condition to access a storage area or compartment 40. In this example, the storage area 40 is

a hanging file storage area that becomes exposed when the openable panel is moved to its open condition. As shown in FIGS. 1 and 2, when the openable panel 16 is in its closed condition, the storage area 40 is hidden within an interior (not shown) of the exterior shell 12 of the device 10. Generally, the storage 40 is positioned behind the openable panel 16 and moves in concert with the openable panel in this example.

[0022] In the disclosed example, the openable panel 16 has a bottom edge 42 and a forward facing surface 44. The surface 44 is configured and arranged to define a part of the exterior shell 12 of the device 10 in this example. The openable panel 16 also has a rear facing surface 46 directed toward a storage interior (not shown) that is defined within the confines of the exterior shell 12.

[0023] The openable panel 16 is pivotable about its bottom edge 42 relative to the exterior shell 12 of the device 10 in order to access or retract the storage area 40. The openable panel 16 can be pivoted between the retracted condition as shown in FIGS. 1 and 2 and the opened condition as shown in FIGS. 3 and 4. In the retracted condition, the forward facing surface 44 is generally flushed with the outer surface of the shell 12 in this example. In this manner, the storage device 10 can be constructed to mask or hide the storage area 40 within the shell interior. The device 10 can be configured so as to not appear to house a file storage area or hanging file folders within its interior, but instead to appear as another type of furniture or storage product. When in the open condition, the openable panel 16 has a top edge 48 that is positioned forward and away from the exterior shell 12 of the device 10. In this open condition, the openable panel 16 provides access to the storage area 40.

[0024] A file suspension device 50 is provided within the storage area to suspend hanging file folders therein. In this example, the suspension device includes a pair of laterally spaced apart support structures 50 positioned to support hanging file folders in the storage area 40. The file folders are generally depicted as folders 52 in FIG. 3. In the disclosed example, the file support structures 50 are a pair of laterally spaced apart, opposed, and curved suspension surfaces 54. The surfaces 54 extend rearwardly from the rear facing surface 46 of the openable panel 16. The axis of the suspension surfaces 54 in this example are curved convexly upward so that they are arched upwardly.

[0025] The upward curve creates a cascading affect for the folders 52 suspended thereon. The suspension surfaces 54 are arranged such that, when the openable panel 16 is in the open position, the storage area 40 and the stored files 52 are exposed. The suspension surfaces 54

are at a slightly lower elevation nearer the rear facing surfaces 46 of the openable panel and increase in elevation moving further away from the rear facing surface. However, because the suspension surfaces are also upwardly curved or arched, the degree of elevation of the suspension surface becomes reduced approaching the exterior shell 12. The suspension surfaces 54 are also angled or tilted forward as illustrated in FIG. 4.

[0026] The combination of the arch, the curvature degree, and the degree of tilt can be designed to produce the cascading affect. The cascading files will thus be arranged so that the elevation of the top edge of the files 52 is lower toward the openable panel 16 and higher toward the shell 12. This presents the information tabs 53 on the top edges of the file folders 52 in an easily readable manner, regardless of the lateral positioning of the tabs.

[0027] The curvature of the suspension surfaces 54 in this example also can assist in providing a smooth gliding action when opening the openable panel 16. Both the radius of the curvature and the position of the surfaces 54 relative to the swing arc can be manipulated to achieve the desired pivot motion of the storage area 40. These characteristics can also be selected to create the desired file folder position and cascade pattern in the open condition. Rollers, bearings, or other friction reducing features can be added between the suspension surfaces 54 or other bearing surfaces and contact points on the exterior shell 12. Such friction reducing elements can assist the movement between the open and retracted condition.

[0028] One or more stops 56, as shown in FIG. 5, can be employed to hold the storage area 40 and openable panel 16 in the open condition. In one example, such a stop 56 can be provided at a rear end of each suspension surface 54. The exterior shell 12 in this example includes a front opening 58 through which the storage compartment or area 40 can pass. The opening 58 becomes covered when the openable panel 16 is in the closed condition. The opening 58 also permits the file folders 52 and the storage area 40 to extend forward from the interior of the shell 12 when in the open condition. An upper edge 60 of the front opening 58 can be positioned relative to the stops 56 such that they bear against an interior surface 62 of the shell 12 adjacent the front opening 58 to prevent further withdrawal of the storage area 40.

[0029] A pair of opposed wedge-shaped panels 70 can extend rearwardly from the rear facing 46 of the openable panel 16 and be connected to and depend from the suspension surfaces 54. These panels 70 can be provided and positioned to retain files and file materials within the storage area 40. These panels 70, if provided, define side or enclosure panels for

the storage area 40 and confine the file folders 52 therebetween. Though not shown, a rear panel and a bottom edge, end, or panel can also be provided to form a fully enclosed compartment in the storage area 40. However, the storage area has at least a top opening or access opening into the storage area or compartment.

[0030] The file suspension device 50 and suspension surfaces 54 can be varied or can differ from the disclosed embodiment. A file suspension device of virtually any type can be employed in the storage area 40 without departing from the spirit and scope of the present invention. However, in one example, the file suspension device can be adapted to provide the cascading feature, though with a different than the support structures 50 and suspension surfaces 54 disclosed herein.

[0031] As is known in the art, a typical hanging file folder (not shown in detail herein) includes a pair of panels folded upon one another with an interconnected bottom edge and a pair of distal free edges at the top. A support bar typically extends through an opening along each top edge of each panel. Each end of each support bar terminates at a hook configured to cooperate with a suspension part or surface to support the hanging folder. Thus, each folder 52 will typically have four laterally extending hooks. These hooks typically rest on and bear against a portion of a suspension device, such as the suspension surfaces 54 in this example. Each of the suspension surfaces 54 can employ a vertically extending rib, though not shown herein, that extends along an inner edge of the surface in an axial direction. The hooks of folders 52 can then ride along these ribs to support the folders as known in the art.

[0032] In other examples, the suspension surfaces 54 or other such file suspension device can employ discrete and positive file positioning structures so that at least the top edges of the hanging file folders are spaced apart and held in such spacing. As shown in FIG. 6 in top view, a serpentine surface configuration can be employed on, formed in, or attached to the suspension surfaces 54 of this example. Peaks 82 of the serpentine feature define valleys 84 therebetween. The support bars or other portions of the top edges of the file folders 52 can rest between the peaks 82 in the valleys 84. The length of the support bar or width dimension of the file folder 52, along with the depth and lateral spacing of corresponding valleys 84 can retain the file folders in the selected position.

[0033] As shown in FIG. 7 in side view, each suspension surface 54 need not be a smooth surface but can instead employ a saw-toothed or stepped spacing mechanism 90 either on, formed in, or attached to the panels 70 and/or surfaces 54. The saw-tooth or step mechanism

90 can be constructed and arranged such that a file folder support bar or other structure rests on a support surface part 92 of the saw-tooth or stepped mechanism 90. The folder support bar can then bear forwardly against a stop part 94 of the configuration. Gravity will tend to draw the file folder against the stop part 94 of the mechanism as a result of the orientation of the surfaces 54. The stop parts 94 will hold the file folder in place in order to achieve the desired file folder spacing.

[0034] As will be evident to those having ordinary skill in the art, these and other of the optional features can vary considerably and yet fall within the spirit and scope of the present inventions. Though not shown in detail herein, the openable panel 16 at its bottom edge 42 pivots forward from the shell 12 of the device 10. The pivot or hinged arrangement can be achieved in any suitable manner. One such example is shown in FIG. 8. A simple pin 100 can extend laterally outward from each side of the openable panel 16. The pins 100 can be located near or at the lower ends of the wedge shaped side panels 70 of the storage area 40. The pins 100 can be retained in complimentary pivot openings or bores 102. These bores 102 can be provided in the exterior shell 12, such as in the side edge surfaces of the front opening 58. Certainly, more elaborate or alternative pivoting or hinge structures can be employed without departing from the spirit and scope of the present invention.

[0035] Also as shown in FIGS. 1-4, a means can be employed to facilitate easy manipulation of the storage area 40 for opening and closing same. In this example, a simple handle or knob 110 is provided extending forwardly from the openable panel 16 near the top edge 48. Other handle, knob, or other such devices can also be employed as desired.

[0036] According to one aspect of the present invention, the disclosed storage device 10 can be employed in order to reduce clutter, store files, and the like. The product can be configured so that it hides both the materials stored therein and its very purpose and function as a file storage device. When the openable panel 16 is in the closed condition, as shown in FIGS. 1 and 2, the storage device 10 can be constructed to appear as a non-storage product such as a piece of furniture, i.e., a table, a cabinet, or the like. The device 10 may appear as some type of storage device, but not one that is adapted for storing hanging file folders. Thus, the device may have a more aesthetically pleasing appearance than a simple file drawer or file cabinet, and yet perform the same function.

[0037] In another aspect of the present invention, the storage device 10 can employ a file cascading feature as described above. With the files cascaded, the identification or

informational tabs 53 of the file folders 52 are vertically cascaded and offset for easy readability by a user. Each file is positioned vertically higher than the next most forward file and vertically lower than the next most rearward file. Thus, the informational tabs 53 of the file folders 2 need not be laterally offset in order for them to be read. The tabs 53 can be easily read regardless of lateral position where the cascading feature is employed.

[0038] The disclosed storage product can be used on a desktop, a floor, a shelf, or stacked with other like or dissimilar products. The consumer will have easy access to the contents by merely tilting the storage area 40 forward. The product can be readily stackable and be constructed from tough, lightweight, and durable materials. The storage area can be made of plastic or any other desired material and the shell can be made from wood or other desirable material.

[0039] The disclosed storage device has one compartment that provides file and other general storage. The compartment can be easily opened or closed. When closed, the visible surface to the consumer may have a multitude of functions, other than a mere decorative finish if desired. For example, the front surface 44 of the openable panel 16 can include a writing surface, a white board, a picture frame, a cork board, or the like. The product hides the files but maintains easy access and also creates a good perception of being tidy and well organized. The product offers easy access and easy file tab readability. The product can include, but is not limited to, a cascading file storage means, a tilting bin that enables the consumer to better read the file labels or contents easily, and a decorative appearance meant to hide the true function of the storage device.

[0040] Although certain file storage devices have been described herein in accordance with the teachings of the present disclosure, the scope of coverage of this patent is not limited thereto. On the contrary, this patent covers all embodiments of the teachings of the disclosure that fairly fall within the scope of permissible equivalents.